



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,980	09/12/2003	Anthony Teillet	100318-00111	6120

7590 08/23/2005

Robert C. Klinger
Jackson Walker LLP.
Suite 600
2435 North Central Expressway
Richardson, TX 75080

EXAMINER

DINH, TRINH VO

ART UNIT	PAPER NUMBER
----------	--------------

2821

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/660,980

Applicant(s)

TEILLET ET AL.

Examiner

Trinh Vo Dinh

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed 06/20/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 21, 23, 24 and 26-29 is/are rejected.
- 7) ☒ Claim(s) 4-20, 22 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is a response to amendment filed 06/20/2005. The rejections of claims 21-22 under 35 USC & 112 second paragraph have been withdrawn in view of the amendment. However, the amended claims 1-29 necessitates a new ground of rejection as discussed below.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gottl et al (USP 6,333,720 of record) in view of Powel (US 6,243,050 B1).

Gottl discloses, in Figs. 4-6, an antenna having a first arrangement of dipole elements (1a, col. 3, lines 30+) forming a first band (col. 3, lines 25-29) and a second arrangement of dipole elements (3a, col. 3, lines 30+) forming a second band (col. 3, lines 25-29), the antenna adapted to provide a variable downtilt of the first and the second beam. However, Gottl does not suggest the dipole elements being adapted to provide the first and second beam having a 90-degree azimuth beamwidth. Powel discloses, in col. 4, lines 7-20, dipole elements providing a 90 degree azimuth beamwidth. It would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange Gottl 's dipole elements to produce 90 degree azimuth bandwidth as taught by Powel since the radiating elements being arranged to achieved a desired bandwidth would have been obvious to one skill in the art.

Art Unit: 2821

3. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gottl as modified by Power, further in view of Le et al (US 2005/0001778 of record).

With respect to claim 2, Gottl as modified by Power disclose every feature of the claim invention except a microstrip feeder. Le discloses a first band (dipoles 14) being fed by a microstrip (30, 64) disposed upon a printed circuit board (50). The use of microstrip networks for feeding antennas has been well known in the art. Therefore, to provide Gottl's antenna with microstrip network as taught by Le for feeding dipole elements would have been obvious to one skill in the art.

With respect to claim 3, Le discloses, in claims 12-13, a first dielectric member (56) slidably disposed over the microstrip (64).

4. Claims 21 and 23-24, as the best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gottl as modified by Powel, and further in view of Wood et al (US 6,211,840 of record).

With respect to claims 23-24, Gottl as modified by Power disclose substantially the claimed invention as noted above in claim 1. Gottl further discloses the antenna elements (1a, 3a) being dipoles (col. 3, lines 60+). However, Gottl does not suggest a balun capacitively coupled to one said dipole. Fig. 2 of Wood shows a balun (7) capacitively coupled to one said dipole (9) and a microstrip. It would have been obvious to one skill in the art to provide Gottl's dipole antennas with Wood's balun in order to improve the antenna's performances.

With respect to claim 21, Wood discloses at least one the antenna element (Fig. 3) having an arm (13) extending at 45°.

Art Unit: 2821

5. Claims 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gottl in view of Power.

With respect to claim 26, Gottl as modified by Power discloses every feature of the claimed invention except the first band being a cellular band and the second band being a PCS band. However, it is fundamental knowledge that an antenna is capable of being scaled or tuned to any desired frequency, including the cellular band and the PCS band (attached document "Antenna Frequency Scaling" discloses a dimension of an antenna can be redesigned for any frequency band as long as all of the measurement of the original antenna are scaled based on the formula). Therefore, it would have been obvious to one of ordinary skill in the art to scale Gottl's antenna elements to operate in the cellular band and PCS band since select desired operation frequency band involves the elementary application such fundamental knowledge.

With respect to claim 27, Gottl discloses, in Fig. 4, a center arrangement of the antenna dipoles (3a), and a pair of dipole arrangements (1a) disposed along each side of the cellular band antenna dipoles (3a).

With respect to claim 28, Gottl discloses the PCS band antenna dipoles (1a) being mechanically configured differently than the cellular band antenna dipoles (3b) to reduce cross polarization.

With respect to claim 29, Gottl discloses, the PCS antenna dipoles (1a) having one arm extending at an angle offset at least 45 degrees from an arm of the other dipole (shown in Fig. 5, one arm of a dipole 1a is extending at an angle about 90 degree from an arm of the other dipole 1a)

Allowable Subject Matter

Art Unit: 2821

6. Claims 4-20, 22 and 25 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims and/or rewritten to overcome the objections set forth in the office action.

7. The following is a statement of reasons for the indication of allowable subject matter: The cited art of record fails to teach the microstrip comprising a first microstrip portion having a serpentine pattern with the first dielectric member slidably disposed thereover as defined in claim 4, or at least one said antenna element has a first arm extending generally horizontal, and another opposite second arm extending at 45° with respect to the first arm as defined in claim 22.

Conclusion

8. Applicant's amendment necessitated the new ground of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2821

Inquiry

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Vo Dinh whose telephone number is (571) 272-1821. The examiner can normally be reached on Monday to Friday from 9:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art unit 2821

A handwritten signature in black ink, appearing to read 'Trinh Vo Dinh', followed by a long horizontal line.

*Trinh Vo Dinh
August 22, 2005*